CASE HD/3-22898/A/PCT
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE PCT NATIONAL STAGE APPLICATION OF
JOSEF ZELGER ET AL

Group Art Unit: 1796
Examiner: Asdjodi, Mohammad Reza
Confirmation No.: 2828

INTERNATIONAL APPLICATION NO. PCT/EP 04/050983
FILED: JUNE 2, 2004
FOR: STORAGE-STABLE FLUORESCENT WHITENER FORMULATIONS
U.S. APPLICATION NO: 10/559,888
35 USC 371 DATE: DECEMBER 7, 2005

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Appeal Brief

Sir:

This Appeal Brief is in response to the Final Rejection mailed on January 24, 2011.

A Notice of Appeal was filed on May 24, 2011. A one month extension of time is submitted herewith making this Appeal Brief timely up to and including August 24th, 2011.

The Commissioner is hereby authorized to charge any necessary fee or credit any overpayment to Deposit Account No. 503852.

(1) REAL PARTY OF INTEREST

The real party of interest, by virtue of an asset transfer agreement between Ciba Corporation and BASF SE as of July 1, 2009 is:

BASF SE
Carl-Bosch-Strasse 38
6700 Luswigshafen
Rheinland-Pfalz D-67056, Germany

The application was originally assigned to Ciba Specialty Chemical Corp. in an assignment recorded in the U.S. Patent and Trademark Office, April 13, 2010 reel/frame 024224/0496.

Ciba Specialty Chemicals Corp. changed its name to Ciba Corp. November 1, 2007 in the state of Delaware.

(2) RELATED APPEALS AND INTERFERENCES

Appellants are not aware of any related appeals and interferences for the above application.

(3) STATUS OF THE CLAIMS

Claims 1 and 4-18 are pending.
All claims are rejected.
Claim 3 is cancelled.
Claim 12 is original.
Claims 1-2, 4-11 and 13-18 are previously presented.

(4) STATUS OF AMENDMENTS

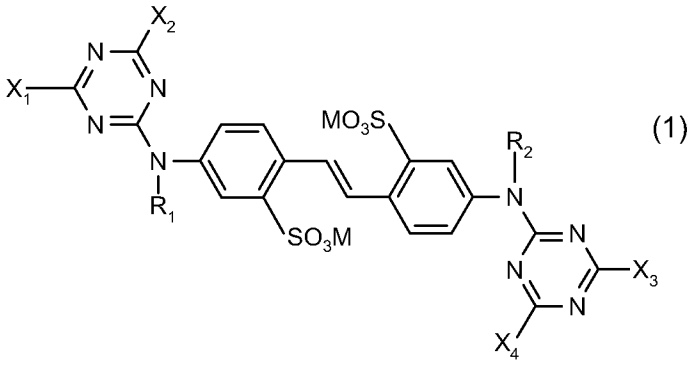
The claims were last amended on November 18, 2010 and accepted by the Examiner.

This brings up to date the status of the claims. A clean copy of the claims is attached in the (8) Claims Appendix.

(5) SUMMARY OF THE CLAIMED SUBJECT MATTER

Claim 1 is the only independent claim and is directed to a storage stable aqueous fluorescent whitener formulation comprising

(a) 10 % - 60 % by weight, based on the total weight of the whitener formulation, of at least one compound of formula (1)



(1)

wherein

R_1 and R_2 are, independently from each other, hydrogen; unsubstituted C_1-C_8alkyl or substituted C_1-C_8alkyl,

X_1 and X_3 are $-NH_2$,

X_2 and X_4 are, independently from each other, $-N(R_3)R_4$ or $-OR_5$, wherein

R_3 and R_4 are, independently of each other, hydrogen; cyano; unsubstituted C_1-C_8alkyl; substituted C_1-C_8alkyl; unsubstituted C_5-C_7cycloalkyl or unsubstituted C_5-C_7cycloalkyl; or R_3 and R_4, together with the nitrogen atom linking them, form a heterocyclic ring, and

R_5 is unsubstituted C_1-C_8alkyl or substituted C_1-C_8alkyl, and

M is hydrogen or a cation selected from the group consisting of Li, Na, K, Ca, Mg, ammonium, mono-, di, tri or tetra C_1-C_4 alkylammonium, and mono, di- or tri-C_2-C_4-hydroxyalkylammoniuim,

(b) 0.01 – 1% by weight, based on the total weight of the whitener formulation, of at least one anionic polysaccharide,

(c) 0 – 25% by weight, based on the total weight of the whitener formulation, of at least one electrolyte,

(d) 0 – 20% by weight, based on the total weight of the whitener formulation, of at least one dispersant,

(e) 0 – 30% by weight, based on the total weight of the whitener formulation, of at least one further fluorescent whitener,

(f) 0 – 20% by weight, based on the total weight of the whitener formulation, of at least one further optional component, and

(g) water to make up 100% by weight.

Support for the essential claim 1 may be found on page 1, lines 5-26 thru page 2, lines 1-4. Support for the preamble limitation "aqueous" can be found in the examples 1 and 2. Support for "aqueous" is also inherent in the original claim as component (g) makes clear that water is part of the required composition.

Support for the component (a) weight percents can be found on page 6, line 1 and page 14, line 3.

As for the cation M, support for it's definition may be found on page 2, last paragraph.

The novel formulations are suspensions, and are stable for several months even at elevated temperatures. See page 2, lines 5-6.

Dependent Claims

Claim 2 - Support found on pages 3, lines 1-2 and page 5, lines 9-17.

Claim 4 - Support found on page 14, line 3.

Claim 5 - Support found on page 17, lines 8-11.

Claim 6 - Support found on page 11, line 23.

Claim 7 - Support found on page 7, lines 5-12.

Claim 8 - Support found on page 7, line 11.

Claim 9 - Support found on page 7, lines 14-24.

Claim 10 - Support found on page 7, lines 27.

Claim 11 - Support found on page 13, lines 7-15.

Claim 12 – Support found on page 8, lines 15-22.

Claim 13 – Support found on page 8, lines 9-13.

Claim 14 – Support found on page 7, lines 30 through end of page and page 8, lines 1-13.

Claim 15 – Support found on page 11, lines 5-14.

Claim 16 - Support found on page 11, line 16.

Claims 17 and 18 – Support found on page 19, lines 17-21.

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

35 USC 103(a)

Claims 1-2 and 4-18 are rejected under 35 USC 103(a) as being obvious in light of Petrin et al., US 5,057,236 in view of Brouwer, US 5,714,450.

(7) ARGUMENTS

Claims will stand or fall based on claim 1.

35 USC 103(a)

Claims 1-2 and 4-18 are rejected under 35 USC 103(a) as being obvious in light of Petrin et al., US 5,057,236 in view of Brouwer, US 5,714,450.

The Office's Position

Examiner believes Petrin to teach storage stable brighteners of the class phenyl-, triazinyl stilbenes present in hypochlorite bleach-compatible surface-active ion pair fluorescent whitener compositions ranging in amounts from 0.001-5%. The preferable ranges are considerably lower and range from about 0.01% to about 1.0% and 0.01 to about 0.5%. See col. 7, lines 3-6.
The Examiner believes Petrin to teach the structure of the claimed whiteners or alternatively submits that the Appellants admit that the compounds are known or can be prepared in analogy to known processes [0046].

Examiner agrees that Petrin does not teach the claimed range of fluorescent whitening agents (component a) of 10-60 %). However, Examiner alleges that Brouwer teach a detergent composition with similar FWAs in detergent concentrations of 1-90%, wherein the ratio of surfactant/whitener is from 5:1 to 2:1.The Examiner believes that this renders the claimed whitener's concentration range obvious.

Present Claim 1

The present claim 1 upon which all other claims depend requires:

An aqueous storage-stable fluorescent whitener formulation comprising

(a) 10-60 % by weight, based on the total weight of the whitener formulation, of at least one compound of formula (1),
(b) 0.01 – 1% by weight, based on the total weight of the whitener formulation, of at least one anionic polysaccharide,
optional components (c), (d), (e), (f) and
water to make up 100% by weight.

Applicants have discovered that by selecting the particular fluorescent whiteners of formula (1) and combining with 0.01 to 1% anionic polysaccharide, it is possible to form highly concentrated aqueous storage stable whitener formulations. The advantages of such concentrated solutions are clear- savings in transportation costs, predictable high concentration of fluorescent whiteners without precipitation, pumpable highly concentrated fluorescent whiteners and avoidance of the dusting of dry solid.

Prior Art

Petrin

Petrin is directed to optical brightener formulations which can be made hypochlorite bleach resistant. As Petrin indicates in col. 1, lines 59-62:

According to Petrin, it has long been deemed desirable to consolidate bleaching/brightening effects into a single-step process. This might be accomplished by formulating detergents with bleach-stable optical brighteners. Thus instead of using subsequent addition of hypochlorite bleach in separate steps with the use of optical brighteners, a detergent which contains an optical brightener which is stable in the presence of sodium hypochlorite will still achieve a fabric brightening effect in spite of simultaneous use of the detergent and the sodium hypochlorite.

Petrin accomplishes this via transformation of a neutral ion-pair with a surface active quaternary ammonium ion-producing compound. See abstract and col. 2, lines 52-59.

In col. 3, lines 10-25 Petrin teaches:

That the hypochlorite bleach stable, surface-active fluorescent whitener compositions absolutely require:

a) by weight of about 0.001% to about 5.0% of a suitable sulfonated anionic fluorescent whitener agent; and

b) at least a stoichiometric amount of a cationic non-softenting N-higher alkyl, N<N,N-lower alkylammonium, ion-producing surface-active agent.

Since stoichiometry is based on the charge relationship of the ingredients, it is **required** that the ratio of cationic surfactant to fluorescent whitener agent is greater than or equal to 1.

Accordingly, Petrin absolutely requires that in order to be bleach stable the fluorescent whitener compositions **must contain** a stoichiometric amount of a cationic N-higher alkyl, N,N,N-lower alkylammonium, ion-producing surface-active agent.

In regard to N-higher alkyl, Petrin means those alkyl groups having from about 8 to about 18 carbon atoms. See col. 7, lines 10-13.

Appellant point out that the present claim limitations exclude the cationic N-higher alkyl ammonium surface-active agent required by Petrin . Note that present M may be hydrogen or a cation selected from the group consisting of Li, Na, K, Ca, Mg, ammonium, mono-, di, tri or tetra C_1-C_4 alkylammonium, and mono, di- or tri-C_2-C_4-hydroxyalkylammoniuim. The N-higher alkyl substituted ammonium surface absolutely required by Petrin are not included. Accordingly, the presently defined fluorescent whitener agents are not actually encompassed by Petrin. Nevertheless, the Office has relied on this reference as a primary one.

The Office is of the opinion that the class of mono or polysulfated phenyl-, triazinyl stilbenes of structure disclosed in col. 4, lines 45-67 encompasses compounds as presently claimed wherein M=H, Na, K or Li. See Final Rejection page 2, last two lines. However, Appellants submit that the invention upon which Petrin relies is the hypochlorite stability accomplished only when there is a stoichiometric amount of a cationic non-softening N-higher alkyl, N,N,N-lower alkylammonium, ion-producing surface-active agent in combination with the brightener. This is clear as explained above from the disclosure in col. 3, lines 10-25.

One skilled in the art is simply not taught by Petrin to select a whitener as presently claimed which does not include the cationic non-softening N-higher alkyl, N,N,N-lower alkylammonium

because this would not give a composition as intended by Petrin, that is a hypochlorite stable fluorescent whitener composition.

In regard to a suitable range in concentration Petrin is also quite clear. Petrin teaches that the stabilized compositions (transformed neutral ion pair with a surface active quaternary ammonium ion-producing compound) range in concentration in hypochlorite bleach from about 0.001% to about 5.0%. See col. 3, lines60-61. Furthermore, Petrin's preferable levels range from about 0.01% to about 1.0% and most preferably from about 0.01% to about 0.5%. See col. 7, lines 3-6.

Petrin also explains that most ion pairs were found to be white crystalline solids and had low solubilities in water. Se col. 9, lines 1-5.

Petrin further discloses that the systems (ions-pairs with bleach) had poor physical stability and tended to settle quickly. See col. 13, lines54-56.

Thus the disclosure of Petrin as a whole teaches that the ion-pairs while bleach stable at low concentrations of 0.001 to 5.0 wt. % have low solubility in water and have poor physical stability and tend to settle quickly. This would lead one skilled in the art to assume that the ion-pairs taught in Petrin would not be good candidates for aqueous whitener formulations ranging from 10 to 60 wt. %. Additionally, Petrin's disclosures considered as a whole would lead one skilled in the art to conclude that such high concentrations would be unstable and quickly precipitate.

Examiner has countered the Appellants above argument by stating that the "features upon which applicant relies (i.e. Petrin's ion-pairs having poor physical stability) are not recited in the rejected claim(s). See page 5, fourth paragraph of Final Rejection.

The Appellants are somewhat puzzled by this counter argument. On one hand the Office is of the opinion that the fluorescent whitener compositions presently claimed are encompassed by the teachings of Petrin (or at a minimum Petrin would direct the artskilled to the presently claimed whiteners) even though the present composition excludes a cationic non-softening N-higher alkyl, N,N,N-lower alkylammonium. The Office then goes on to reject arguments made by the Appellants explaining that the ion-pairs taught by Petrin having poor physical stability are NOT recited in the rejected claims. See page 5, fourth paragraph of Final Rejeciton. If the Petrin ion-pairs are NOT included in the present claims as the Office argues, then the Appellants submit that the Petrin's taught

fluorescent whiteners are NOT encompassed by the present claim limitations. If they are not encompassed by the present claims, then what is the basis of Petrin as a primary reference? If they are encompassed , then their solubility is such that one skilled in the art would not assume that the ion-pairs taught in Petrin would be good candidates for aqueous whitener formulations ranging from 10 to 60 wt. %. In one instance the Office opines that the whiteners taught by Petrin are encompassed by the present claims and in the second instance in order to refute the Appellants solubility arguments states that the ion-pairs are not encompassed by the claims. Respectfully, the Office cannot have it both ways.

Examiner agrees that Petrin does not teach the presently claimed range for the fluorescent whitener of 10 to 60 wt. % of the aqueous formulation. But has relied upon on Brouwer to provide a teaching of the claimed ranges for component (a). Examiner also alleges that Brouwer teaches similar whiteners as presently claimed.

Brouwer

The teachings of Brouwer drawn upon by the Examiner for a teaching of "similar whiteners" are found in col. 23, lines 10-12 which is a generic reference to diaminostilbnesulfonic acid-cyanuric chlorides. The claimed ranges for component (a) referenced by the Examiner for the whitener and surfactant is found in col. 24, lines 65-67. The Examiner states on page 4 of the Final Rejection:

> that Brouwer teaches a detergent composition with similar fluorescent whitening agents (col. 23, lines 10-12) with detergent concentration of 1-90%, wherein the ratio of surfactant/whitener is from 5:1 to 2:1 (see col. 24, lines 65-67). This renders the claimed whitener's concentration range obvious to a person of ordinary skill in the art to utilize a higher concentration of fluorescent whiteners with the motivation of enhancing the whitening efficacy of the cleaning composition as evidenced by Brouwer.

The Examiner goes on further to explain that Brouwer "is teaching a total detergent amount of 1-90% is a simple arithmetic mean of arriving at the whitener's amount or concentration range (as claimed by the instant claim 10-60%) and it is not related to the amount of anionic polysaccharide, as apparently construed by applicant". See page 5 under response to Arguments 'A". But the only reference within Brouwer to "1-90%" is in relation to the amount of surfactant present in the detergent. See abstract. Col. 2, lines 3-5, col. 2, lines 44-45, col. 2, lines 64-65, col. 22, line 65, claim 1, claim 8 component a). Respectfully, the Appellants do not understand the arithmetic mean to which the Examiner refers. Is this the mean of 1-90 percent? If so, this is incorrect as the 1-90% refers to the surfactant concentration within the powdered detergent, not the whitener concentration. If Examiner,

is referring to the ratio of surfactant to whitener of 5:1 to 2:1, this refers to the proportion of whitener within the particle and the particle may comprise as much as 1/3 of ~33% whitener. This teaching in no way can make obvious a range of concentration of whitener for an aqueous fluorescent whitener formulation. If the whitener particle were to comprise at least 30 percent by weight of the detergent (and this is the maximum Bouwer teaches-see col. 2, line 6-7) and 33% by weight of the whitener particle contains whitener (2;1 ratio of surfactant to whitener), this would give a powder detergent containing a maximum of about 10% whitener. Once the detergent containing the whitener particles are added to a washing machine solution (now aqueous) the aqueous concentration of the whitener would be far under what is presently claimed, that is 10 to 60 %.

Respectfully, Appellants do not believe Brouwer teaches the ranges of whitener presently claimed in an aqueous solution. What Brouwer teaches is a whitener which is post added to a powder detergent. The particle may make up as much as 30 % of the total detergent formulation. See col. 2, lines 6-7. The particle per se may contain as much as 50% whitener (1:1 surfactant to whitener ratio taught in column 18, lines 48) giving a maximum of about 15% whitener within the **powdered detergent**. Neither the particle or detergent is aqueous. But even when the particle containing detergent is added to a washing solution (aqueous), the aqueous concentration of the whitener in the washing solution will be far under the 15 % presently claimed because of the dilution by water.

Accordingly, even if Brouwer could be combined with Petrin, the combination would not arrive at the present claim limitations. Furthermore, even if one skilled in the art were to assume that Brouwer taught whitener concentrations overlapping with the present claim limitations (10-60%), Petrin's teachings in regard to concentrations of whitener, would lead to precipitation and settling of the whitener ion-pair.

Additionally, the Brouwer invention is directed to powder detergent that contain the post-added discrete whitening agent particles. See col. 3, lines 28-30. The discrete whitening agent particles are protected via the surfactant. Aqueous compositions are not discussed at all and in fact would really not apply as the objective of Brouwer is to protect whiteners from discoloration of the bulk powdered detergent upon storage. The particles and detergent must be in powder form to do this as the particulates Brouwer discloses protect the whitener by substantially isolating it from the deleterious effects of any nonionic surfactants present in the detergent. If the compositions were aqueous the particulate would no long function to protect the whitener from the nonionic surfactants present in the detergent. See col. 18, lines 54-56.

Summary of Differences Between the Prior Art and the Present Claims

- Appellants believe that the presently claimed whiteners are not encompassed by Petrin. Petrin requires a cationic non-softening whitener compositions ***containing*** a stoichiometric amount of a cationic N-higher alkyl, N,N,N-lower alkylammonium, ion-producing surface-active agent. These ion-producing surface-active agents are excluded from the claims. Anyone skilled in the art reading Petrin is directed to select the ion-pair which accomplishes Petrin objectives. As the ion-pairs are not covered by the present claims, Petrin is deficient in teaching the whitener formula presently claimed. And as Brouwer does not make up for this deficiency, the rejection is incomplete.
- One skilled in the art is simply not taught by Petrin to select a whitner as presently claimed which does not include the cationic non-softening N-higher alkyl, N,N,N-lower alkylammonium because this would give a composition which would not function as intended by Petrin, that is a hypochlorite stable fluorescent whitener composition.
- Petrin teaches the ion-pairs are not likely to be water soluble nor are they likely to form stable concentrated aqueous solutions. One skilled in the art would assume that high concentrations of the ion-pairs in aqueous formulations within Petrin would not be possible. The examples of Petrin do not exceed 1000 ppm.
- The disclosure of Petrin as a whole teaches that the ion-pairs while bleach stable at low concentrations of 0.001 to 5.0 wt. % have low solubility in water and have poor physical stability and tend to settle quickly. This would lead one skilled in the art to assume that the ion-pairs taught in Petrin would not be good candidates for aqueous whitener formulations ranging from 10 to 60 wt. %. Additionally, Petrin's disclosures considered as a whole would lead one skilled in the art to conclude that such high concentrations would be unstable and quickly precipitate.
- Examiner response to this is the "features upon which applicant relies (i.e. Petrin's ion-pairs having poor physical stability) are not recited in the rejected claim(s). See page 5, fourth paragraph of Final Rejection.
- On one hand the Office is of the opinion that the fluorescent whitener compositions presently claimed are encompassed by the teachings of Petrin even though the present composition excludes a cationic non-softening N-higher alkyl, N,N,N-lower alkylammonium. But the Office then goes on to reject arguments made by the

Appellants explaining that the ion-pairs taught by Petrin having poor physical stability are not recited in the rejected claims. See page 5, fourth paragraph of Final Rejection.

- If the Petrin ion-pairs are not included in the present claims as the Office argues, then the Appellants submit that the limitations of the claims are not met in regard to the whiteners. If they are encompassed, then their solubility is such that one skilled in the art would not assume that the ion-pairs taught in Petrin would be good candidates for aqueous whitener formulations ranging from 10 to 60 wt. %.
- The Office cannot have it both ways. In one instance the Office opines that the whiteners taught by Petrin are encompassed by the present claims and in the second instance in order to refute the Appellants solubility arguments states that the ion-pairs are not encompassed by the claims.
- The Examiner looks to Brouwer for reliance upon formulations that teach detergent powder formulations incorporating whiteners at high levels (levels within the present claim limitations of 10-60%).
- Appellants respectfully submit that Brouwer does not teach the ranges of whitener in an aqueous composition as presently claimed. What Brouwer teaches is a whitener/surfactant particle which is post added to a powder detergent. The particle may make up as much as 30 % of the total detergent formulation. See col. 2, lines 6-7. The particle per se may contain as much as 50% whitener (1:1 surfactant to whitener ratio taught in column 18, lines 48) giving a maximum of about 15% whitener within the **powdered detergent**. Neither the particle or powder detergent is aqueous. Even when the particle containing detergent is added to a washing solution (aqueous), the aqueous concentration of the whitener in the washing solution will be far under the 10 % presently claimed because of water dilution.
- Accordingly, the combination of Brouwer with Petrin is deficient in that Brouwer does not teach the range of whiteners presently claimed in an aqueous environment. Thus even if combined, the claim limitations are not met.
- Further, Brouwer is directed to <u>powder</u> detergent that contain the post-added discrete whitening agent particles. See col. 3, lines 28-30. The discrete whitening agent particles are protected via the surfactant. Aqueous compositions are not discussed at all and for good reason. The objective of Brouwer is to protect whiteners from discoloration of the bulk detergent upon storage. The particles and detergent must be in powder form to do this as the particulates Brouwer discloses protect the whitener by substantially isolating it from the deleterious effects of any nonionic surfactants present

in the detergent. If the compositions were aqueous the particulate would no long function to protect the whitener from the nonionic surfactants present in the detergent. See col. 18, lines 54-56.

- As a result, the combination fails on at least two counts: the combination is deficient in meeting the claim limitations and the whitener particulate of Brouwer would simply fail to function as intended in an aqueous solution.

In view of the points above, the Appellants respectfully submit that a *prima facie* case of obviousness has not been made by the Office and that the rejection be withdrawn.

The Appellants submit that the rejection of claims 1 and 4-18 is rebutted and respectfully solicit reconsideration in light of the remarks *supra*.

Respectfully submitted,

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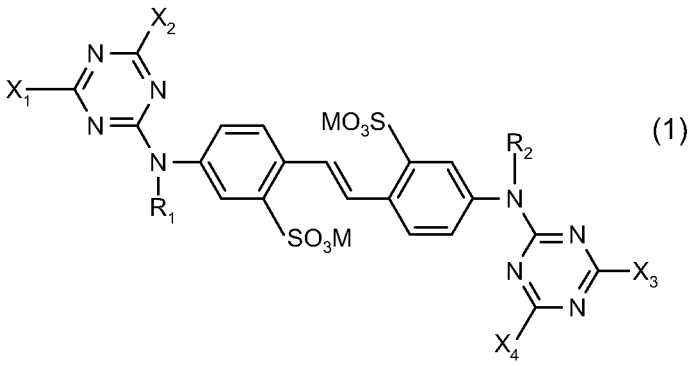
Enclosures: Claim Appendix (8), Evidence Appendix (9), Related Proceedings Appendix (10) and fee for a one month extension of time.

(8) CLAIMS APPENDIX

1. (previously presented): A storage-stable aqueous fluorescent whitener formulation comprising

(a) 10 % - 60 % by weight, based on the total weight of the whitener formulation, of at least one compound of formula (1)



(1)

wherein

R_1 and R_2 are, independently from each other, hydrogen; unsubstituted C_1-C_8alkyl or substituted C_1-C_8alkyl,

X_1 and X_3 are -NH_2,

X_2 and X_4 are, independently from each other, -$N(R_3)R_4$ or -OR_5, wherein

R_3 and R_4 are, independently of each other, hydrogen; cyano; unsubstituted C_1-C_8alkyl; substituted C_1-C_8alkyl; unsubstituted C_5-C_7cycloalkyl or unsubstituted C_5-C_7cycloalkyl; or

R_3 and R_4, together with the nitrogen atom linking them, form a heterocyclic ring, and

R_5 is unsubstituted C_1-C_8alkyl or substituted C_1-C_8alkyl, and

M is hydrogen or a cation selected from the group consisting of Li, Na, K, Ca, Mg, ammonium, mono-, di, tri or tetra C_1-C_4 alkylammonium, and mono, di- or tri-C_2-C_4-hydroxyalkylammoniuim,

(b) 0.01 – 1% by weight, based on the total weight of the whitener formulation, of at least one anionic polysaccharide,

(c) 0 – 25% by weight, based on the total weight of the whitener formulation, of at least one electrolyte,

(d) 0 – 20% by weight, based on the total weight of the whitener formulation, of at least one dispersant,

(e) 0 – 30% by weight, based on the total weight of the whitener formulation, of at least one further fluorescent whitener,

(f) 0 – 20% by weight, based on the total weight of the whitener formulation, of at least one further optional component, and

(g) water to make up 100% by weight.

2. (previously presented): A storage-stable fluorescent whitener formulation according to claim 1 comprising

10 % - 60 % by weight, based on the total weight of the whitener formulation, of at least one compound of formula (1), wherein

R_1 and R_2, independently from each other, hydrogen or C_1-C_4alkyl,

, X_2, and X_4 are independently from each other a radical of formula -N(R_3)R_4, wherein

R_3 and R_4 are, independently from each other, hydrogen; cyano; C_1-C_8alkyl which is unsubstituted or substituted by hydroxy, carboxy, cyano, -COOH, -H_2NC(NH)NH_2-, -$CONH_2$ or phenyl, and wherein the C_1-C_8alkyl group is uninterrupted or interrupted by -O-; unsubstituted C_5-C_7cycloalkyl or C_1-C_4alkyl-substituted C_5-C_7cycloalkyl; or

R_3 and R_4, together with the nitrogen atom linking them, form an unsubstituted morpholino, piperidine or pyrrolidine ring or a C_1-C_4alkyl-substituted morpholino, piperidine or pyrrolidine ring.

3. (cancelled).

4. (previously presented): A storage-stable fluorescent whitener formulation according to claim 1 comprising

10 to 50% by weight, based on the total weight of the formulation, of at least one compound of formula (1).

5. (previously presented): A storage-stable fluorescent whitener formulation according to claim 1 wherein the anionic polysaccharide is selected from the group consisting of sodium alginate, carboxymethylated guar, carboxymethylcellulose, carboxymethyl-starch, carboxymethylated locust bean flour and xanthan gum.

6. (previously presented): A storage-stable fluorescent whitener formulation according to claim 1 comprising

0.05 to 0.5% by weight based on the total weight of the formulation, of at least one anionic polysaccharide.

7. (previously presented): A storage-stable fluorescent whitener formulation according to claim 1 wherein the electrolyte or the mixture of electrolytes are selected from the group consisting of alkali metal salts and salts of lower carboxylic acids.

8. (previously presented): A storage-stable fluorescent whitener formulation according to claim 1 comprising

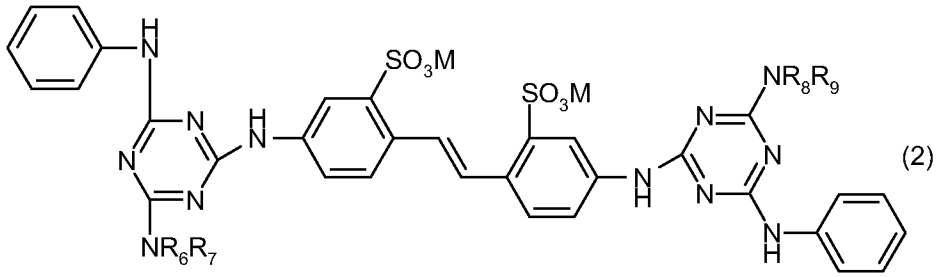
0.5 to 20% by weight, based on the total weight of the formulation, of at least one electrolyte.

9. (previously presented): A storage-stable fluorescent whitener formulation according to claim 1 wherein the dispersant or the mixture of dispersants are selected from the group consisting of

alkylbenzenesulfonates, alkyl or alkenyl ether-sulfonate salts, saturated or unsaturated fatty acids, alkyl or alkylene ether-carboxylic salts, sulfo-fatty acid salts or esters, phosphate esters, polyoxyethylene alkyl or alkenyl ethers, polyoxyethylene alkylvinyl ethers, polyoxypropylene alkyl or alkenyl ethers, polyoxybutylene alkyl or alkenyl ethers, higher fatty acid alkanolamides or alkylene oxide adducts, sucrose/fatty acid esters, fatty acid/glycol monoesters, alkylamine oxides and condensation products of aromatic sulfonic acids with formaldehyde and lignin-sulfonates.

10. (previously presented): A storage-stable fluorescent whitener formulation according to claim 1 comprising 0.1 to 20% by weight, based on the total weight of the formulation, of at least one dispersant.

11. (previously presented): A storage-stable fluorescent whitener formulation according to claim 1 comprising of at least one further fluorescent whitener of formula (2)



(2)

wherein

R_6 and R_8, independently from each other, are hydrogen; unsubstituted C_1-C_8alkyl or substituted C_1-C_8alkyl,

R_7 and R_9, independently from each other, are hydrogen; unsubstituted phenyl; unsubstituted C_1-C_8alkyl or substituted C_1-C_8alkyl, or

NR_6R_7 and/or NR_8R_9 form a morpholino ring,

and M is hydrogen or a cation.

12. (original): A storage-stable fluorescent whitener formulation according to claim 11 wherein

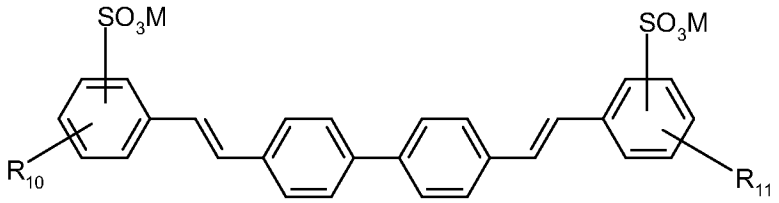
R_6 and R_8, independently from each other, are hydrogen; unsubstituted C_1-C_2alkyl or C_1-C_4alkyl, which is substituted by hydroxy or C_1-C_4alkoxy,

R_7 and R_9, independently from each other, are unsubstituted phenyl; unsubstituted C_1-C_2alkyl or C_1-C_4alkyl, which is substituted by hydroxy or C_1-C_4alkoxy, or

NR_6R_7 and/or NR_8R_9 form a morpholino ring,

and M is an alkali metal atom.

13. (previously presented): A storage-stable fluorescent whitener formulation according to claim 1 comprising of at least one further fluorescent whitener of formula (3)



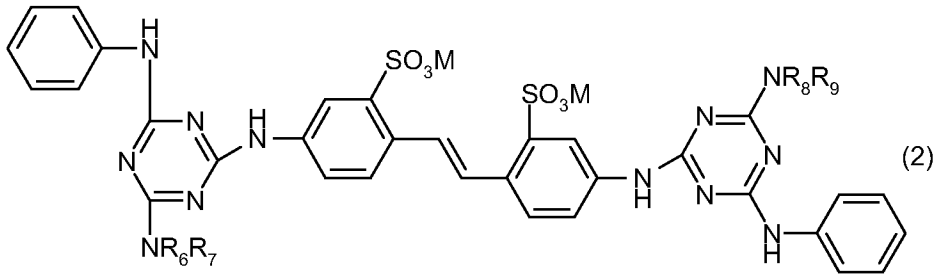
(3)

,

wherein

R_{10} and R_{11}, independently from each other, are hydrogen; C_1-C_8alkyl; C_1-C_8alkoxy or halogen, and M is hydrogen or a cation.

14. (previously presented): A storage-stable fluorescent whitener formulation according to claim 1 comprising 0 to 25 % by weight of at least one further fluorescent whitener of formula (2)



(2)

wherein

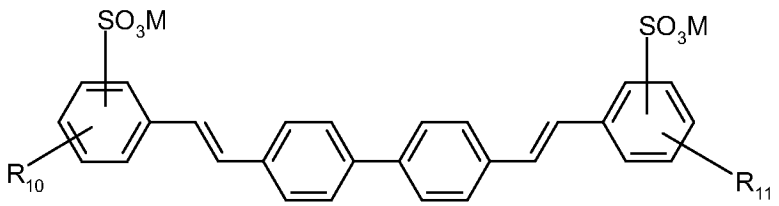
R_6 and R_8, independently from each other, are hydrogen; unsubstituted C_1-C_8alkyl or substituted C_1-C_8alkyl,

R_7 and R_9, independently from each other, are hydrogen; unsubstituted phenyl; unsubstituted C_1-C_8alkyl or substituted C_1-C_8alkyl, or

NR_6R_7 and/or NR_8R_9 form a morpholino ring,

and M is hydrogen or a cation

and/or formula (3)



(3)

,

wherein

R_{10} and R_{11}, independently from each other, are hydrogen; C_1-C_8alkyl; C_1-C_8alkoxy or halogen, and M is hydrogen or a cation.

15. (previously presented): A storage-stable fluorescent whitener formulation according to claim 1 wherein optional components are selected from the group consisting of preservatives; Mg/Al silicates; odour improvers; perfuming agents; antifoam agents; builders; protective colloids; stabilizers; sequestering agents and antifreeze agents.

16. (previously presented): A storage-stable fluorescent whitener formulation according to claim 1 comprising 0.1 to 20% by weight based on the total weight of the formulation, of at least one optional component.

17. (previously presented): A process for the preparation of a storage-stable fluorescent whitener formulation according to claim 1 , which comprises mixing the moist filter cake or the dry powder of

the fluorescent whitening of formula (1) with least one anionic polysaccharide and water, and homogenizing the formulation.

18. (previously presented): A method for the preparation of a detergent composition, which comprises incorporating into said composition an effective whitening amount of a storage-stable fluorescent whitener formulation according to claim 1.

(9) EVIDENCE APPENDIX

No Evidence Appendix is submitted.

(10) RELATED PROCEEDINGS APPENDIX

As the Appellants are not aware of any other related proceedings, no copies of decisions rendered by a court or the board are attached.